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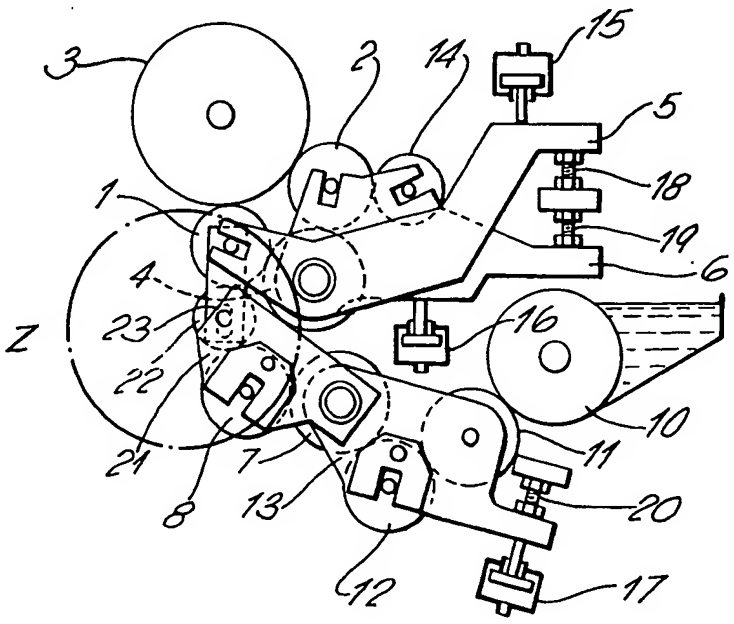
(71) Applicant VEB Kombinet Polygraph "Werner Lamberz" Leipzig, (DR Germany), Zweinaundorfer Strasse 59, 7050 Leipzig, German Democratic Republic.
(72) Inventors Johannes Behmel, Gerhard Zuber.
(74) Agent and/or Address for Service Dr. Walther Wolff & Co., 6 Buckingham Gate, London SE1W 6JP.

# (54) Inking means for a rotary printing machine

(57) Inking means for a rotary printing machine comprises two inking rollers (1, 2), which are connected with a first ink distribution cylinder (4) and are pivotable about this and a second ink distribution cylinder (7) mounted upstream of the first cylinder (4) in ink flow direction. The second cylinder (7) is connected selectably either directly by way of one transfer roller (8) with the first cylinder (4) (as shown in Figure 1) or by means of two transfer rollers (8, 22) with one (1) of the two inking rollers (as shown in Figure 2). These two transfer rollers (8, 22) are mounted at their ends in bearing plates (21), which are pivotable about the second cylinder (7), and the axle spigots (24, 25) of that one of the inking rollers and the transfer roller (22) co-operating therewith are connected at both ends by respective couplers (23).

Fig. 2.

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SPECIFICATION

## Inking means for a rotary printing machine

The present invention relates to inking means for a rotary printing machine, such as for use in relief or offset printing.

Inking devices for rotary printing machines for relief or offset printing are known in a wide variety of forms. According to the desired quality of inking of the printing plate, the inking devices differ in, amongst other things, the number and arrangement of ink rollers. Inking devices for newspaper printing machines require fewer ink divisions and distributions than inking devices for jobbing printing machines. Correspondingly, inking devices set up with minimum effort for the different types of use are correspondingly different. The production of the different types of inking device is expensive due to the great diversity of the individual parts with low piece numbers.

It would thus be desirable to provide an inking device with a high proportion of standardised components for both newspaper and jobbing printing, especially an inking device having an uncomplicated construction and requiring little setting work of its ink rollers.

According to the present invention there is provided inking means for a rotary printing machine, comprising a first ink distribution cylinder, two inking rollers contacting the first ink distribution cylinder and mounted to be pivotable about the axis thereof, a second ink distribution cylinder arranged upstream of the first cylinder with respect to a direction of ink flow in the inking means, and interchangeable first and second coupling means to effect alternative direct coupling of the second cylinder respectively with the first cylinder and one of the inking rollers, the first coupling means comprising a single transfer roller positionable in contact with the two cylinders and the second coupling means comprising two mutually contacting transfer rollers, which are positionable in contact with respectively the second cylinder and said one inking roller and which are supported at their ends by two support members mountable to be pivotable about the axis of the second cylinder, and respective connecting means positionable at each end of said one inking roller to connect axle means thereof with axle means of the adjacent one of said two transfer rollers.

In a preferred embodiment, the inking means comprises two inking rollers, which stand in connection with a first ink distribution cylinder and are pivotable around this, as well as a second ink distribution cylinder mounted in front of the first cylinder in the ink flow direction. The second cylinder stands in connection selectably either directly by way of a transfer roller with the first cylinder or by means of two transfer rollers with one of the inking rollers, wherein these two transfer rollers are mounted at both sides in respective bearing plates which are pivotable around the distributing cylinder and the roller spigots of said one inking roller and of the transfer roller co-operating therewith are connected at both sides with a respective coupler. As a result, the inking means has the same basic build-up for both newspaper and jobbing printing and has predominantly identical components for both tasks. The inking means is thus producible without undue cost in economical lot sizes with small diversity in individual parts. The inking means format for newspaper printing is expandable in simple manner through additional equipment into a format for jobbing printing. Thanks to the afore-mentioned connection between inking and transfer rollers, the setting of this roller pair need not be varied on resetting of the inking roller relative to a form or distributing cylinder. Also, a device for setting-off the bearing plates carrying the transfer roller is redundant and the contact, which is required for washing of the inking means, of this roller with the inking roller set off from the form cylinder is ensured.

An embodiment of the present invention will now be more particularly described by way of example with reference to the accompanying drawings, in which:

*Figure 1* is a side elevation of inking means embodying the invention, the inking means having a format for newspaper printing;

*Figure 2* is a view similar to Figure 1 but showing the inking means equipped for jobbing printing; and

*Figure 3* is the detail Z of Figure 2.

Referring now to the drawings, there is shown in Figure 1 inking means comprising two inking rollers 1 and 2, which are arranged at a plate cylinder 3. The rollers 1 and 2 also rest against a distributing cylinder 4 and are mounted to be pivotable about this in pivot levers 5 and 6. A further distributing cylinder 7 is mounted in front of the distributing cylinder 4. The two cylinders 4 and 7 stand in connection by way of a transfer roller 8 and are received in bearing plates 9 pivotably fastened to a machine frame. The cylinder 7 is connected to a ductor 10 by way of a grooved roller 11 and a transfer roller 12. The two rollers 11 and 12 are mounted together at each end in a respective bearing plate 13 pivotable around the cylinder 7. Finally, the pivot levers 6 carry a rider roller 14 contacting the inking roller 2.

The pivot levers 5 and 6 as well as the bearing plates 13 are actuable by pneumatic operating piston-cylinder units 15, 16 and 17, which are arranged in the frame, in connection with settable abutments 18, 19 and 20 fixed relative to the housing and return springs (not shown). The setting of the ink rollers relative to each other and to the distributing cylinders takes place through displacement of their axle spigots in slots of the pivot levers 5 and 6, bearing plates 9 and bearing plates 13. Alternatively, however, the reception and resetting of the ink rollers can take place by means of conventional roller locks.

The form of inking means illustrated in Figure 1 is suitable for newspaper printing. It can be equipped in the printing works, through the subsequent incorporation of only few components as illustrated in Figure 2, for jobbing printing or can be assembled as such at the printing machine manufacturer. In

particular, the bearing plates 9 with the transfer roller 8 are removed and, instead thereof, two bearing plates 21 are inserted, which are pivotable about the cylinder 7 and carry transfer rollers 8 and 22. The bearing plates 21 are constructed with a divided hub and are thus mountable in a simple manner on the spigots of the cylinder 7. The spigots 24 and 25 of the mutually contacting inking roller 1 and transfer roller 22 are connected by means of two couplers 23 (Figure 3). Setting of the roller play takes place by means of the set screw 26. This roller play does not vary on a resetting of the inking roller 1 relative to the plate cylinder 3 or to the cylinder 4. The transfer roller 8 stands in contact with the cylinder 7 and the transfer roller 22. It is pivotably mounted at bearing plates 27 fastened to the bearing plates 21.

In the illustrated embodiment, the inking means is envisaged for use in a relief printing machine. Paired with a damping mechanism, they can also be used in an offset printing machine. Moreover, the number and arrangement of the ink rollers between the distributing cylinder 7 and the ductor 10 can be varied.

CLAIMS

1. Inking means for a rotary printing machine, comprising a first ink distribution cylinder, two inking rollers contacting the first ink distribution cylinder and mounted to be pivotable about the axis thereof, a second ink distribution cylinder arranged upstream of the first cylinder with respect to a direction of ink flow in the inking means, and interchangeable first and second coupling means to effect alternative direct coupling of the second cylinder respectively with the first cylinder and one of the inking rollers, the first coupling means comprising a single transfer roller positionable in contact with the two cylinders and the second coupling means comprising two mutually contacting transfer rollers, which are positionable in contact with respectively the second cylinder and said one inking roller and which are supported at their ends by two support members mountable to be pivotable about the axis of the second cylinder, and respective connecting means positionable at each end of said one inking roller to connect axle means thereof with axle means of the adjacent one of said two transfer rollers.

2. Inking means as claimed in claim 1, each of the connecting means being provided with adjusting means to adjust the spacing of the axle means of said adjacent one of said two transfer rollers relative to the axle means of said one inking roller.

3. Inking means substantially as hereinbefore described with reference to the accompanying drawings.

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Fig. 1.

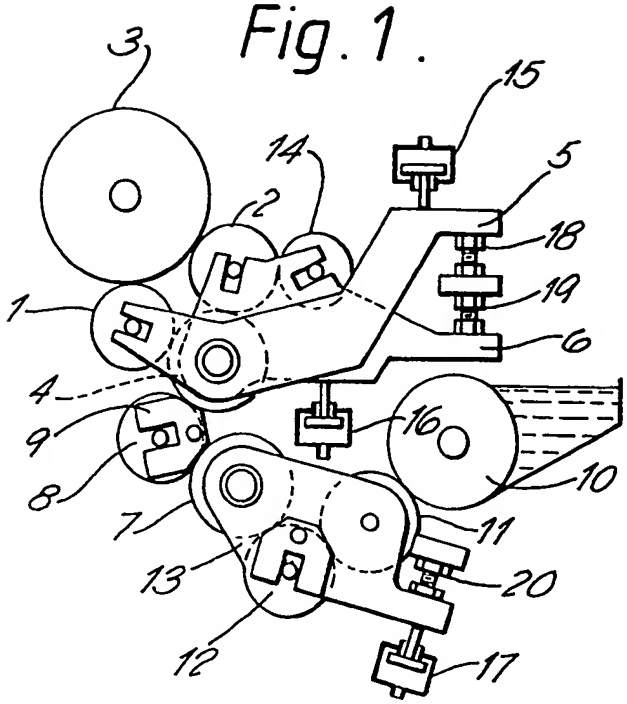


Fig. 2.

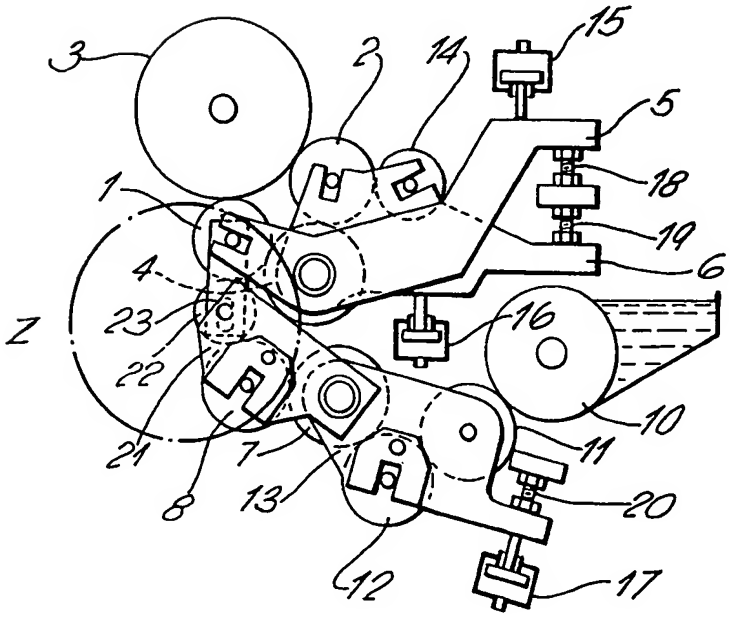

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Fig. 3.